CSL 201 Data Structures Lab - Program List

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Department of Computer Science & Engineering

2021 - 2025 (A) Batch

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GCC & GEANY Installation on Windows

Cycle 1

1. Write a C program to implement linear search using function.
2. Write a C program to implement bubble sort using function.
3. Write a C program to implement binary search using recursion.
4. Write a C program to implement insertion sort.
5. Write a C program to implement selection sort.
6. Write a C program to implement quick sort.
7. Write a C program to implement merge sort.

Cycle 2

8. Write a C program to implement polynomial addition using arrays. (use an array of structures, and functions to read, add and display polynomials)
9. Write a C program to convert a sparse matrix into a tuple form.
10. Write a C program to add two sparse matrices.
11. Write a C program to find the transpose of a sparse matrix.
12. Write a C program to implement stack ADT using arrays.
13. Write a C program to reverse a string using stack.
14. Write a C program to convert an infix expression into a postfix expression.
15. Write a C program to evaluate a postfix expression.
16. Write a C program to convert an infix expression into a prefix expression.
17. Write a C program to evaluate a prefix expression.
18. Write a C program to implement queue using arrays.
19. Write a C program to implement a circular queue using arrays.
20. Write a C program to implement a double-ended queue using arrays.
21. Write a C program to implement a priority queue using arrays.

Cycle 3

22. Write a C program to implement a singly linked list (basic operations).
23. Write a C program to implement a stack using a linked list.
24. Write a C program to implement a queue using a linked list.
25. Write a C program to implement a circular linked list (basic operations).
26. Write a C program to implement polynomial addition using linked list.
27. Write a C program to implement a doubly linked list (basic operations).
28. Write a C program to count the number of nodes in a singly linked list.

Cycle 4

29. Write a C program to represent Binary Tree using arrays.
30. Write a C program to represent Binary Tree using linked list.
31. Write a C program to implement Heap Sort.
32. Write a C program to implement binary tree traversal algorithms.
33. Write a C program to find the height of a Binary Tree (using recursion).
34. Write a C program to implement a hash table using the hash function H(k)=k
35. Write a C program to implement binary search trees.
36. Write a C program to implement DFS and BFS on an undirected connected graph.
